

Tanta University	3 rd year, Computers & Control Dept.
Faculty of Engineering	Digital Signal Processing

Sheet 1

1. Consider the discrete time sequence $x(n)$ as given below,

$$x(n) = \{1/2, 1/2, 0, 1/3, 1\}$$



sketch the following signals:

- a. fold $x(n)$ then delay the resulting signal by 3 samples.
 - b. delay $x(n)$ by 3 samples then fold the resulting signal.
2. For the following discrete time sequence

$$x(n) = \{1/2, 1/2, 0, 0, 1, 1\}$$



- a. sketch $x(n)$.
 - b. find out $x(n)u(2 - n)$.
 - c. find out $x(n + 2)\delta(n - 2)$.
3. For the following discrete time sequence, express $x(n)$ in the sequence form:
- a. $x(n) = u(n + 2) - u(n - 2)$
 - b. $x(n) = u(n - 2)\delta(n - 4)$
 - c. $x(n) = u(n) + 2u(n - 3)$
 - d. $x(n) = \delta(n + 1) - \delta(n - 3)$